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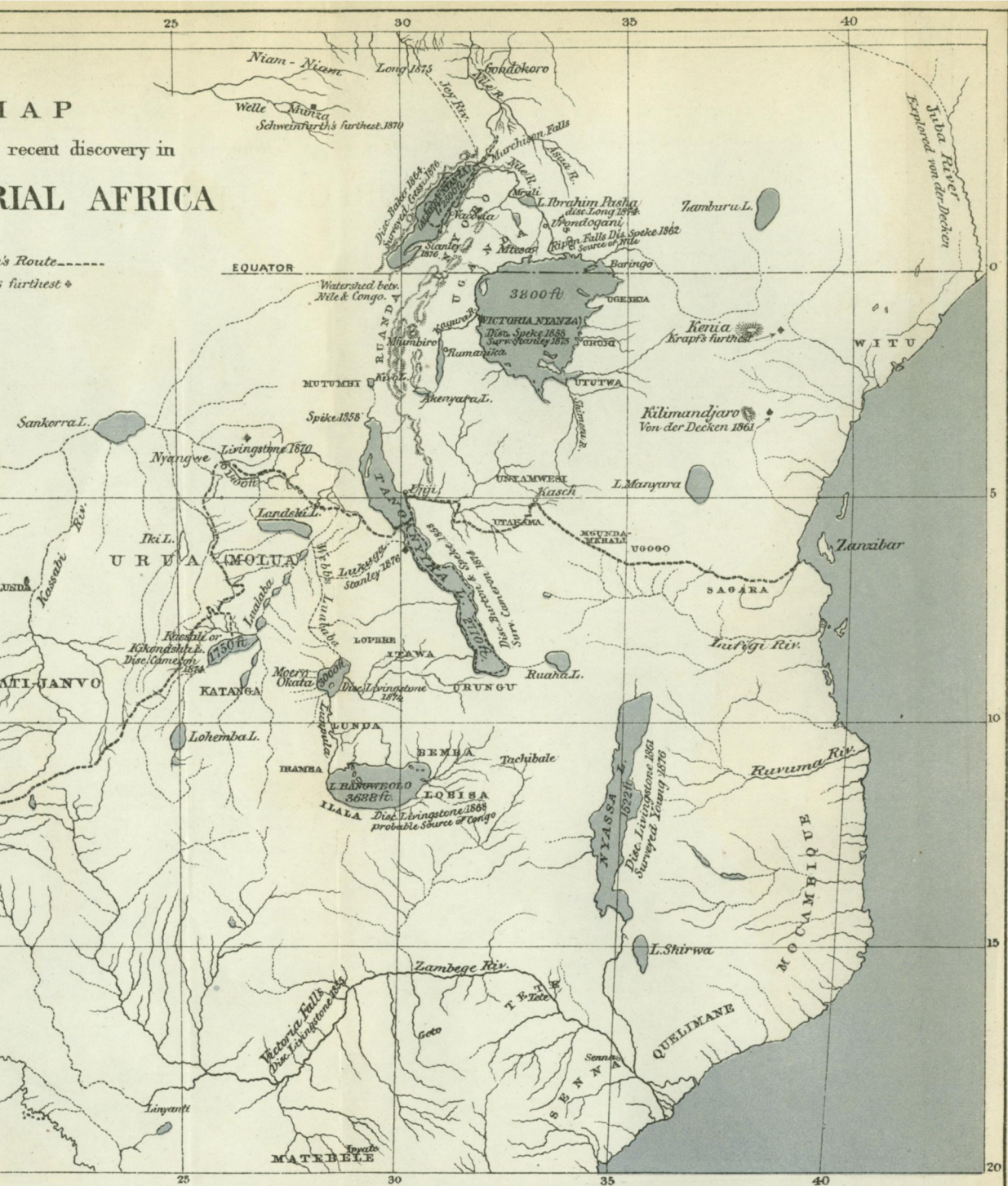
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J. Bien, photo-lith.

RIAL AFRICA

EQUATOR



ART. IV. — AFRICAN EXPLORERS.*

THE results of geographical discovery in Africa during the last five-and-twenty years have been so vast, as compared with the progress of explorations prior to that time, that it is difficult to realize the additions which have been made to our knowledge without recalling the maps of our youth, and contrasting the large blank space marked "unexplored," which distinguished them, with the most modern delineations of the continent. The white tracts are now reduced to comparatively slender limits, the great problems which have for centuries puzzled geographers are all solved by actual investigation, or by inference which almost amounts to moral certainty, and but little will soon remain for the explorer to do beyond filling up details and verifying or rectifying previous discoveries. It is perhaps natural that those who have been engaged in opening up these interesting regions should regard somewhat jealously the estimation in which their achievements are held, and that each should claim the full amount at least of the credit to which he may consider himself entitled. It must therefore be always a somewhat invidious task to compare the work of men who all deserve the highest praise for the exhibition of those qualities which are essential to successful exploration, and to assume to decide upon the merit of their respective discoveries. While perhaps among geographers there might be little difference of opinion upon this point, the general public is more apt to take its impressions from accidental circumstances, and he who records his own exploits most ostentatiously, or has friends or supporters especially interested in doing so for him, is likely often to wear the laurels which properly belong to the more modest but really successful explorer. It is only right, therefore, that the claims of

* *Journal of the Discovery of the Source of the Nile.* CAPT. JOHN HANNING SPEKE.
What led to the Discovery of the Source of the Nile. CAPT. JOHN HANNING SPEKE.
A Walk across Africa. CAPTAIN J. A. GRANT.
The Last Journals of David Livingstone. By HORACE WALLER.
Across Africa. COMMANDER CAMERON, R. N. C. B.
Central Africa. COLONEL C. CHAILLÉ LONG.
Letters. H. M. STANLEY, *New York Herald.*

those who are no longer alive to support them themselves, or who shrink from the ungrateful task of vindicating their own achievements, should receive the consideration to which they are properly entitled, and that we should dismiss from our minds all personal considerations in awarding to each the merit which is justly his due.

In order to enable our readers to perceive at a glance the work that has been done in Equatorial Africa during the last quarter of a century, and to appreciate the more easily by whom this work has principally been achieved, we have appended a map, based chiefly upon the very excellent work of Mr. Petermann in a late number of his *Mittheilungen*. The best test of the value of exploration is to be found in the material which it affords for the construction of maps. And when we affirm that the discoveries of Speke, Livingstone, and Cameron up to this date may be said to furnish our entire map of Equatorial Africa, no higher testimony can be adduced of the nature and extent of their labors. It will be found, on investigation, that all subsequent travellers in the regions first made known to us by the two former of these explorers have either confirmed by actual examination the truth of inferences which circumstances prevented them from verifying at the time, or they have filled in details completing, but not materially altering, the general outlines of their maps of the topographical features of the country. In a word, while these travellers have solved the main problems of African geography, those who have followed them have made discoveries which have confirmed the solution. It is not, therefore, from any wish to detract from the merits of these latter that we are compelled to award them a second rank in African exploration, but because the field had necessarily become limited by the discoveries which had been made before they entered upon it.

The region explored or mapped by Livingstone consists of all the country west of Lake Tanganyka, as far north as Nyangwé, and as far west as Cameron's route, extending southerly to the limits of the map, including the Zambesi and Lake Nyassa; his route from the mouth of the Zambesi to St. Paul de Loando, crossing Cameron's from Zanzibar to Benguela, which is indicated on the map. The magnitude and importance of Speke's discoveries, which now seem in danger of being appropriated or ignored, have

induced us to reproduce a facsimile of the map published by him in 1864. It presented to the world for the first time the solution of the great Nile mystery, and although at the time doubts were thrown upon the accuracy of his observations and his inferences, they have since turned out to be substantially correct, and all subsequent investigations have only proved conclusively the justice of his claim to the much-coveted title of "Discoverer of the Sources of the Nile."

Although the labors of Livingstone were protracted over a longer period, and in many respects are unrivalled in the field of African exploration, it was beyond question the good fortune of the late Captain Speke to carry off the blue ribbon of geographical discovery. It is with the view of making this fact clear to our readers, and of justifying this assertion, that we propose, in the first instance, briefly to call their attention to the work accomplished by this intrepid and successful explorer. When Speke first entered Africa, twenty years ago, in company with Captain Burton, the three great lakes of Tanganyka, Victoria and Albert Nyanza were unknown, and the extreme limit of Nile exploration was at Miani's tree, in north latitude $3^{\circ} 24'$; to the south of this point all was mystery. Scarcely anything had been done from the east coast; Krapff, Rebmann, Baron von der Decken, and others, were attempting to push in from the Suwahili coast, immediately south of the equator, and were rewarded by discovering the lofty peaks of Kenia and Kilimandjaro. Livingstone was far to the south, upon the Zambesi, and beyond the vague tradition of a great lake due west from Zanzibar, all was unknown. It was to the discovery of this lake that Captains Burton and Speke applied themselves, and in the early part of the year 1858 they stood upon its shores. In consequence of their prostrate condition, resulting from the hardships of their journey, they could do little towards its survey; nevertheless, perceiving the importance of determining whether this lake had an outlet to the north, for in that case it was unquestionably the source of the Nile, they explored it in that direction until they perceived a horseshoe range of mountains surrounding its northern end, and rendering the hypothesis of an outlet impossible. From native sources the information was derived that the river Rusizi, having its rise in a small lake in the mountains, after a southerly course entered Lake Tanganyka at its

northern extremity. The range and the river appear in Speke's map; as a topographical feature, the range is of the highest importance, for all subsequent exploration has proved that Captain Speke's theory, founded upon the discovery of this range, must be correct, namely, that it is part of the great African watershed, all the streams flowing towards the east and north going to feed the lakes, small or great, which are the reservoir of the Nile, while those which flow to the south and west go to swell the waters of the Congo. We shall allude more fully to this hypothesis in connection with Livingstone's discoveries and theory. On their return journey from Lake Tanganyka to Zanzibar Captain Burton was taken ill at Kazeh, and Captain Speke, hearing rumors of a lake to the northwards, pushed on alone in that direction, and was rewarded, in July, 1858, after a toilsome march of two hundred and twenty-six miles in twenty-five days, by finding himself standing on the shores of a mighty unknown inland sea, with a water horizon, called by the natives Ukerewe, and which he subsequently named the Victoria Nyanza. The conviction at once forced itself upon his mind that here at last was the true source of the Nile, and that if he could reach its northern shores he would find its outlet to be the mighty river whose origin had been the problem of ages. Returning to England full of this project, he laid his views before the Royal Geographical Society, and an expedition was equipped to prosecute the exploration of this lake, to be undertaken by Captains Speke and Grant. In January, 1862, the two travellers again struck the western shores of the lake, and following them reached the kingdom of Uganda; in doing so they crossed the Kageera River, which they then pronounced to be the largest affluent of the lake, and therefore the most important of the headwaters of the Nile. They discovered, on investigation, that this river has its source in sundry lakes in the same mountain-range that Speke had already discovered at the northern end of Tanganyka. As a further confirmation of his theory, Captain Speke found not only that the two lakes were separated from each other by mountain-ranges, but that the level of Lake Tanganyka was considerably lower than that of the Victoria Nyanza; any communication, therefore, between the former lake and the Nile was a manifest impossibility. Captain Grant's illness unfortunately prevented him from accompanying Speke in his explorations along

Published in 1864.

0 Equator

VICTORIA N'YA
3740 feet above the Ocean

A map of the East African coast. The Indian Ocean is labeled on the left. Zanzibar is shown as a large island. The mainland is depicted with a dashed line representing the coast. Labels include 'ZANZIBAR' at the top, 'Indian Ocean' on the left, 'Arab information' near Zanzibar, 'Rolling ground, untraveled by Arab information' along the coast, and 'Arab information' further inland.

Rolling
plateau

J. Bien, photo-lith.

the northern shore of the lake, until at last he came upon its eagerly looked-for outlet, and found himself standing upon the brink of a magnificent river which precipitated itself with majestic grandeur over a cataract to which he gave the name of Ripon Falls.

As Captain Speke watched the Nile leave the lake he exclaims : —

“The expedition had now performed its functions. I saw that old Father Nile without any doubt rises in the Victoria Nyanza, and, as I had foretold, that lake is the great source of the holy river which cradled the first expounder of our religious belief. . . . Let us now sum up the whole, and see what it is worth. Comparative information assured me there was as much water on the eastern side of the lake as there is on the western ; if anything, rather more. The most remote waters, or *top-head*, of the Nile is the southern end of the lake, situated close on the third degree of south latitude ; which gives to the Nile the surprising length, in direct measurement, rolling over thirty-four degrees of latitude, of above twenty-three hundred miles, or more than one eleventh of the circumference of our globe. Now from this southern point round by the west, to where the *great* Nile stream issues, there is only one feeder of any importance, and that is the Kitangule (Kageera) River, whilst from the southernmost point round by the east there are no rivers at all of any importance.”

This fact has been verified by Stanley, while, to show the great importance he attached to the Kageera, Speke remarks in another place : —

“The volume of water in the Kitangulé (Kageera) looked as large as that of the Nile ; but then the one was a slow river and the other a swift, and on this account I could form no adequate judgment of their relative values.”

Here, then, was Speke carefully weighing the importance of the Kageera River as a Nile feeder, but he very properly did not call it the Nile, because when a large river issues from a mighty lake into which flow hundreds of affluents, he judged correctly that the river that left the lake was not the same river as any one even of the largest of those affluents ; but if the Kageera is to be called the Nile, the discoverer of it in that capacity is indisputably Captain Speke, and not Mr. Stanley, who has changed its name into Alexandra Nile, though, in point of fact, it can no more properly be considered so than an affluent of Lake Superior could be called

the St. Lawrence, or a stream running into Lake Itasca called the Mississippi. We are reluctantly compelled to dwell upon this, because we regret to find that Mr. Stanley has not merely thought fit to change the name of the Kageera River into that of the Alexandra Nile, but to assume that he has discovered the source of the Nile in a lake which Captain Speke has delineated in his map as Akenyara, and he has changed the name of this lake into Alexandra Nyanza. Mr. Stanley does not seem to be aware that it is not according to polite usage for explorers to give names to lakes which they have not visited, if they figure on the maps of former travellers, and still less to change names of rivers which have been previously discovered and carefully laid down.

Mr. Stanley says that he had not the works of Captains Speke and Grant with him, and while he admits that they discovered this river, says he "does not know what they taught about it." It seems incredible that he should have neglected the first duty of an explorer, and failed to provide himself with the only description in existence of the region he proposed to explore. Had he adopted this precaution, he would have avoided the grievous error of supposing that he was making important geographical discoveries, or adding in any essential particular to the information which had already been obtained by Speke and Grant. The former officer remained six weeks, and the latter nearly five months, with Rumanika on the banks of the Kageera; during that time they acquired all the information in regard to it which their lengthened stay enabled them to do. Captain Speke gives a most elaborate description, with two very pretty sketches, — one of the river and the other of the reedy lake, described by Stanley, who ascended the river about forty miles higher, — and Captain Grant devotes four pages of his book to the river and its bearing upon the Nile basin. It is evident, from Mr. Stanley's account, that Rumanika, like a practised cicerone, finding that the exploration of this river was a matter of such interest to his two former white visitors, afforded Stanley the same treat.* The latter has furnished us with

* "At daybreak," says Captain Speke, "Rumanika sent us word he was off to Moga-Namirinzi, a spur of a hill beyond 'the Little Windermere,' overlooking the Ingézi Kagéra, or river which separates Kishakka from Karagné, to show me how the Kitan-gulé River was fed by small lakes and marshes, in accordance with my expressed wish to have a better comprehension of the drainage system of the Mountains of the Moon. He hoped we would follow him, not by the land route he intended to take, but in

a map which differs from that of Captain Speke, and is entirely inconsistent with the topographical features of the country.

"Without loss of time," says that officer, "I set to work and, gathering all the travellers I could in the country, protracted from their descriptions all the distant topographical features set down on the map as far north as 3° of north latitude, east as 36°, and as far west as 26° of west longitude; only afterwards slightly corrected, as I was better able to connect and clear up some trifling but doubtful points. Indeed, I was not only surprised at the amount of information about distant places I was enabled to get from these men, but also at the correctness of their vast and varied knowledge, as I afterwards tested it by observation and the statements of others. I rely so far on the geographical information I thus received, that I would advise no one to doubt the accuracy of these protractations until he has been on the spot to test them by actual observation."

canoes which he had ordered at the ferry below. Starting off shortly afterward, I made for the lake, and found the canoes all ready, but so small that, besides two paddlers, only two men could sit down in each. After pushing through the tall reeds with which the end of the lake is covered, we emerged in the clear open, and skirted the further side of the water until a small strait was gained, which led us into another lake, drained at the northern end into a vast swampy plain, covered entirely with tall rushes, excepting only in a few places, where bald patches expose the surface of the water, or where the main streams of the Ingézi and Luchuro valleys cut a clear drain for themselves. . . .

"Bit by bit Rumanika became more interested in geography, and seemed highly ambitious of gaining a world-wide reputation through the medium of my pen. At his invitation we now crossed over the spur to the Ingézi Kagéra side, when, to surprise me, the canoes I had come up the lake in appeared before us. They had gone out of the lake at its northern end, paddled into and then up the Kagéra to where we stood, showing, by actual navigation, the connection of these highland lakes with the rivers which drain the various spurs of the Mountains of the Moon. The Kagéra was deep and dark, of itself a very fine stream, and, considering it was only one — and that, too, a minor one — of the various affluents which drain the mountain valleys into the Victoria Nyanza through the medium of the Kitangulú River, I saw at once there must be water sufficient to make the Kitangulú a very powerful tributary to the lake."

The following is Stanley's description of the same lake and river:—

"From Rumanika — that gentle and most sweet pagan, whom I found more easy to convert to a geographer than to a Christian — I obtained every assistance, by which I was enabled to explore thoroughly the singular body of water called Ingézi, which is a shallow lake five to ten and even fourteen miles wide, through which the Alexandra Nile continues its resistless course with a depth of from forty to sixty feet.

"I was enabled, after continuing my journey from Rumanika's, to obtain a pretty clear view of a good deal of the unexplored course of the Alexandra Nile" (Kageera).

In this map the Kageera is called the Kitangulé or Luchiro, and Lake Kivo, Rusizi. Colonel Grant says : —

“We observed that the waters of the Kitangule (Kageera) are accumulated from the Lakes Karague, Kageera, Kishakka, Ooyewgomah, and water from Utumbi. The river is beyond comparison the greatest body of water met with from the south of the Victoria Nyanza all round its western shore to its most northerly point, where the Nile was seen by Speke to make its exit from the lake; it reminded me, when ferrying it, of the Hooghly ten miles above Calcutta.”

After further description he goes on to point out, apparently as a reason why it should not be considered the Nile, that “it is one hundred and sixty miles distant by water from the point whence the Nile issues from its parent reservoir, the Lake Nyanza, at twenty-one miles north latitude.”

In Mr. Stanley's map Akenyara is expanded in its dimensions, and wedged in between the north end of Tanganyka and the south end of Albert Nyanza, which is brought a degree and a half too far south. The intervening distance is thus reduced to about one hundred and twenty miles, and this we know to be a wild mountainous region, with peaks ten thousand feet high. Speke's and Grant's information, as we have shown, was to the effect that the Kageera had its origin in various lakes in these mountains, of which no doubt Akenyara is one; but that the latter is the great Nyanza Lake, which Mr. Stanley dignifies as a Nile source, is as improbable as his further assumption that it is connected by a channel ten miles long with Lake Kivo, which thus occupies a position almost due east of Tanganyka, instead of due north, and at a distance of only thirty miles from its northern end. Stanley seems unhesitatingly to believe a native report that the Rusizi flows from Akenyara through Kivo into Tanganyka on the one side, while the Kageera flows from the same lake into the Victoria Nyanza on the other. This is in the last degree improbable. Tanganyka must be at least two thousand feet below Akenyara, from which it is separated, according to Speke's map, by the range of mountains which he calls the Mountains of the Moon. The same range would make it impossible for any river of the size delineated by Stanley, and which we presume he calls the Alexandra, or some other Nile, to flow into Lake Akenyara from the west. Mr. Stanley gave us an admirable account of this region a year ago, in a letter dated April, 1876,* where he casually

* New York Herald, August 12, 1876.

mentions Akenyara as a lake thirty miles by twenty, and entirely confirms Speke's and Grant's accounts of the drainage of this range. He has never revisited the scene of his exploration since then, and why we should now be favored, as a sort of second thought, with a map and a theory which are both so improbable, it is difficult to imagine, unless it be that each letter he sends home must contain a discovery. If Mr. Stanley is made the victim of many more of these sensational triumphs, his reputation as a geographer, which, if it is let alone, will stand very high, must inevitably be ruined. First we have the Shimeeyu as the source of the Nile discovered by Stanley in 1875; now we have the Kageera source, discovered in 1876, and it is to be supposed that as the public demand for Nile sources increases, Mr. Stanley will be called upon to supply them. The effect of all this must be inevitably to inspire an amount of distrust in that gentleman's work which is not deserved. He runs the risk of being converted, in spite of himself, from an excellent and conscientious traveller into a geographical charlatan, and we have too much respect for his many great qualities and high merit as an explorer to wish to see such a fate befall him. It is certainly not by distorting or magnifying his achievements beyond all recognition that an appreciation of them can best be forced upon the scientific world. Mr. Stanley may rest assured that he will win laurels as an explorer just in the degree in which he can forget he is a correspondent; if, instead of sending home crude or sensational theories, with imaginary maps, he retained his facts and his information until he had an opportunity of consulting the authorities he has forgotten to take with him, he would reflect far more credit, not only on himself, but upon those whose enterprise and liberality have secured to the cause of geographical science his valuable services. Meantime we cannot adopt either his geography or his nomenclature until he has visited the region he has mapped. Ignoring, then, as utterly improbable, the hypothesis of Stanley's large "Alexandra Nyanza," and assuming it to be a lake of the dimensions assigned to it by Speke, we find the region which intervenes between the Tanganyika and the Albert and Victoria Nyanza to be a mountainous tract, apparently volcanic, with a chain of lofty peaks, called by Speke "Lunæ Montes," rising to a height of from ten to thirteen or fourteen thousand feet.

We learn from Stanley that on one of these, Gambaragaré, lying almost under the equator, snow is often seen, while the slopes of Mfumbiro, which attains an elevation of ten thousand feet, give rise, according to Speke, to the Kageera. Imbedded in the lower spurs of this range, to the northwest, lies that singular lake, Albert Nyanza. It was surveyed last year by Mr. Gessi, and found to be one hundred and forty miles long by fifty broad. Mr. Gessi states that the lake is bounded on the south by great trees, and that in that portion the water is only leg-deep, and that it is bounded on the west by high mountains and great forests. A remarkable discrepancy exists between the observations of Mr. Gessi and Mr. Stanley, who reached the lake from Rumanika's, but was unable to do anything towards its exploration; he struck the lake at a point about thirty miles to the south of the "leg-deep" swamp which stopped Gessi's exploration, and induced him to suppose that he had reached its limits in that direction. Whether Mr. Stanley found a new lake which he supposed was the Albert Nyanza, or whether that lake expanded again after being apparently choked by the "Ambatch" forest described by Gessi, and which may possibly turn out to be Speke's island of Gasi, is a point which still remains to be cleared up. Under any circumstances the functions of the Albert Nyanza in the Nile basin are no longer in doubt. It is clear that the opinion expressed by Captain Speke fifteen years ago, that this lake cannot be considered a "source," but is a backwater, has now been fully confirmed; it is evidently a cleft in the mountains, into the northern end of which the Nile has emptied itself, and then leaves it a few miles from the point of ingress. Surrounded by precipitous cliffs, it receives no large affluents, and adds nothing to the volume of the Nile, while the Ambatch swamp of Gessi would lead to the hypothesis that it was gradually silting up at its southern end. Colonel Grant, in a speech recently made at the Royal Geographical Society, strongly supports this view:—

"He thought Captain Speke was quite right in regarding the Albert Nyanza as merely a backwater of the Nile, formed by the flood-waters from the Victoria Nyanza, filling the plain, and then descending in full stream to Gondokoro. That this was the case was proved by the fact that, on reaching Gondokoro two months after seeing the river in high flood below the Victoria Nyanza, Speke and he found that the

water had not then got down so far as Gondokoro. It must therefore have been retained in the Albert Nyanza as a backwater, or as an enlargement of the Nile at this particular spot, for the Albert does not add any perceptible quantity of water to the Nile, which flows from the Albert Nyanza."

Sir Samuel Baker, who discovered this lake in 1864, while expressing a slightly different view, pays the following handsome tribute to Captain Speke's memory and services in a letter addressed by him to the President of the Royal Geographical Society last year:—

"My definition of the two lakes of the Nile was as follows: The Victoria gathers all the waters on the eastern side and sheds them into the northern extremity of the Albert; while the latter, from its character and position, is the direct channel of the Nile, which receives all waters that belong to the equatorial Nile basin. Thus the Victoria is the *first source*, but from the Albert the river issues at once as the Great White Nile.

"I have always considered that if Speke had not assisted me by the gift of his invaluable map when at Gondokoro, I should never have succeeded in the discovery of the Albert Nyanza. He was wonderfully correct in the information that he obtained, and the great success of the present is a result entirely due to the pioneers Speke and Grant, who first opened the road to the Nile sources."

That the river which Speke saw leaving Lake Nyanza at the Ripon Falls, and which entered the Albert Nyanza at Magungo, was the Nile, was put beyond all question by his voyage from the lake to the Kuruma Falls; after tracing it to Urondogani, he was obliged to leave its banks to avoid a hostile tribe, striking it again at Mrooli, about eighty miles lower down. This portion was descended by Colonel Long, the year before last, who in consequence of this very moderate achievement also, like Mr. Stanley, puts in his claim to be a discoverer of a Nile source. He found that the Nile widened at one spot to a reedy lake about twenty-five miles long by ten or fifteen broad, to which he gave the name of Lake Ibrahim Pasha; therefore, in a work which he has recently published, he exclaims: "The question of the Nile sources is now no longer one of *Caput Nili querere*; the problem of remote ages has been finally solved. The Lakes Victoria, Ibrahim, and Albert, acting as great basins of the equatorial watershed, and fed by perpet-

ual equatorial rains, constitute with their affluents the *sources of the Nile.*" The exact value of Lake Ibrahim in this connection will be best appreciated by a reference to its exact size upon the map. We are reminded, when we are asked to consider Lakes Akenyara and Ibrahim Pasha as Nile sources, of old Dr. Livingstone's words: "Some seem to feel that their own importance in the community is enhanced by an imaginary connection with a discovery or discoverer of the Nile sources, and are only too happy to figure, if only in a minor part, as theoretical discoverers, — a theoretical discovery being a contradiction in terms."

Colonel Long distinguished himself so very much by his courage in an encounter with the natives on this lake, that it is a pity he did not rest rather on his laurels as a soldier than as a solver of "Nile mysteries" which had ceased to exist. Since then an Italian explorer, Carlo Piaggia, has made an exploration from Mrooli, and discovered a lake which he calls Lake Capechu, which he found to be fifty miles long. In the very able and exhaustive analysis of recent African exploration contained in Chief Justice Daly's last address to the American Geographical Society, the learned President, in alluding to this lake, says that Colonel Long had received a telegram announcing this discovery, and reporting that Piaggia found two rivers flowing into the lake from the northeast. Colonel Long felt no doubt that this lake was the same he had discovered, and "supposes the two rivers to be the Asua and the Sobat." This monstrous proposition the Chief Justice evidently did not think it worth while to dispute, and we feel disposed to follow his wise example. A glance at the map will show the Asua River more than a hundred miles north of Lake Ibrahim, flowing away to the Nile, while the more distant Sobat beyond the limits of our map rises in the Galla country and enters the Nile about six hundred miles still farther away. How these rivers could be made to reverse their currents and flow in exactly the opposite direction to that which nature had assigned to them, is another of those mysteries of which the Nile basin seems so prolific.

Colonel Long, like his brother explorer Stanley, had evidently forgotten to take any guide-books with him, and was in entire ignorance of what former explorers had done; he gives us an account of a short cruise on Lake Victoria Nyanza, in which he remarks: "Knowing that the lake had never been visited by either Speke or

Grant, and that the map of the former was purely imaginative, made on the report of the natives, I was convinced that the lake had not the width given it by Speke. The consciousness that I was the only white man who had ever been upon the lake determined me on the following morning to make every effort to cross to the other side." We do not believe Colonel Long deliberately intended to produce the false impression which this passage is calculated to convey, but it displays an amount of ignorance which seriously impairs the value of the rest of his narrative. Had he read Captain Speke's book, "What led to the Discovery of the Source of the Nile," he would have seen described "the vast expanse of pale blue waters of the Nyanza which burst upon my gaze. The distant sea-line of the north horizon was defined in the calm atmosphere between the north and west points of the compass." This was when Speke first stood on the southern shore of the lake, in August, 1858. At that time he remained a week, examining and collecting information concerning it, to which he devotes thirty pages of his book, and became convinced it was the Nile source. Had Colonel Long ever read Captain Grant's "Walk across Africa," he would have found that officer four years later standing on the western shore, one hundred and fifty miles from the scene above described, and enthusiastically exclaiming:—

"The now famous Victoria Nyanza, when seen for the first time, expanding in all its majesty, excited our wonder and admiration. Even the listless Wanyamuezi come to have a look at its waters stretching over ninety degrees of the horizon. The Seedees were in raptures with it, fancying themselves looking upon the ocean which surrounds their island home of Zanzibar, and I made a sketch dotting it with imaginary steamers and ships riding at anchor in the bay. On its shores are beautiful bays made by wooded tongues of lowland running into the lake, with very often a rounded detached island at their apices. . . . In the distance large boats paddled along from the mainland to the islands of Sesseh. One of five planks sewn together, having four cross-bars as seats, was brought to convey me to Uganda, but after four of us had got into it with loads, the craft was so cranky that such a voyage would have been madness, the water streaming in."

Finally, had Colonel Long consulted a third book on this same lake,* he would have found that, so far from being the first white

* Journal of Discovery of the Source of the Nile.

man on its waters, Captain Speke spent six days cruising about its northern shore with King Mtesa in canoes, and he would doubtless, in the face of all this testimony to the contrary, have hesitated before stating in his first report, as the result of his survey of the Nyanza, that it was only twelve miles in width! "The subsequent exploration of Stanley," he now explains, "in April, 1875, ten months after, has proved that the land, which gave me the impression of a coast-line, was in fact a chain of islands, of which the lake is full." Colonel Long announces that he is going to publish another book to be called "Notes of Travel and Exploration of the River Juba," on the strength of his having been the first white man who ever "explored that unknown" river for a distance of one hundred and fifty miles. Before doing so, we would advise him to consult the notes of that distinguished and lamented traveller Baron von der Decken, who ascended the same river for about three hundred and fifty miles; he will thus avoid similar doubtful or superfluous discoveries.

As Colonel Gordon has now established a chain of military posts all along the Upper Nile from Gondokoro to the shores of the Victoria Nyanza, at the Ripon Falls, and as every inch of the Nile has now been examined from this point to the sea, we trust we have got to the end of Nile mysteries and Nile problems. The region which Speke, Grant, and Baker were the first to explore is now annexed to Egypt, and is being traversed in various directions both by foreigners and intelligent Egyptian officers, — a steamer is on Lake Albert Nyanza, and another will doubtless soon be launched on the Victoria Nyanza, — King Mtesa, who, since he first saw Speke and Grant, has been visited by Stanley, Linant de Bellefonds, and Long, has doubtless extended his hospitality to later travellers; for, as Colonel Grant remarked at a late meeting of the Geographical Society, there is now postal communication to his capital from London, and "Cook's tickets" may soon be issued to the Albert Nyanza in seventy-five days, within which limits it was stated by Colonel Gordon to be possible now to reach it. The prospect of these tourists making new discoveries of Nile sources, and multiplying their "Nyanzas" upon us, with royal prefixes attached, is somewhat alarming. We should be disposed rather to suggest the Niam Niam country and the Pygmy race as a more attractive subject of investigation, but even here the novelty has somewhat worn off.

Since the days when Petherick first returned with the exaggerated accounts of his explorations in that then unknown region, it has been visited by Schweinfurth, Miani, Peney, Piaggia, Long, and Marno, amongst whom Schweinfurth shines conspicuously as one of the most accurate, painstaking, and conscientious of *savans*. Not only have his explorations extended farther than those of other travellers, but his discovery of the Welle River is a most important and interesting topographical feature, as we shall presently show. The investigations of Chippendale, Watson, Kemp, and Gessi show that the Nile is navigable for steamers for one hundred and twenty miles after it issues from Lake Albert Nyanza, to Duffli, where the rapids commence. It is hoped, however, that the Jey River, which leaves the lake at its northern outlet, may prove to be more navigable, as there can now be little doubt of its being a branch of the Nile. The theory of M. Marcette, the late Marquis de Compiegne, and others, that the Pygmy race of the Niam Niam country extends right across Africa to the Gaboon where they were seen by M. du Chaillu, seems to us highly improbable. It is much more likely that they are scattered tribes than that they extend as a solid race for more than twelve hundred miles. Whoever should undertake and successfully accomplish this journey, and trace the Welle to its mouth, would solve the only African mystery remaining; for while the source of the Congo would be a most interesting subject of exploration, Cameron's late journey has proved that it is no longer a mystery, as we shall now proceed to show.

While historically the source of the Nile possessed a fascination in the eyes of the explorer which did not attach to the head-waters of the Congo, from a geographical point of view the origin of a river which was second only to the Amazon in magnitude was of the highest interest. The enormous volume of water which the Congo pours into the Atlantic, for it is about ten miles wide at its mouth, proved either that it drained a very great extent of country and might possibly have a very long course, or that it discharged the waters of an unusually rainy zone, and was probably lacustrine in its character. The latter has in fact proved to be the case. Livingstone, searching for the fountains of the Nile, stumbled upon those of the Congo, and in Lake Bangweolo discovered what will undoubtedly prove to be the principal source of that mighty river.

There is something pathetic in the tenacity with which he clung to the delusion that he was on the head-waters of the Nile, and in that sentence in his journal in which the evidence to the contrary begins to force itself upon him, and he reluctantly acknowledges that he may be mistaken. "What a state of blessedness," he says, "it would have been, had I possessed the dead certainty of the homœopathic persuasion, and as soon as I found the Lakes Bangweolo, Moero, and Kamolondo pouring out their waters down the great central valley, bellowed out, 'Hurra! Eureka!' and gone home in firm and honest belief that I had settled it and no mistake! Instead of that I am even now not at all 'cock-sure' that I have not been following down what may, after all, be the Congo." This seems only to have been an occasional doubt, however, for when Mr. Stanley returned from his first very enterprising and meritorious expedition, and brought us the welcome intelligence that he had found that veteran explorer at Ujiji, he brought with him also Livingstone's theory that the lacustrine river, known as the Luapula, between the Lakes Bangweolo and Moero, and afterwards called by him Webb's Lualaba, was the Nile. Those who contended at that time that this was impossible were called "arm-chair geographers," because they refused to abandon an early prejudice in favor of rivers running down hill instead of mounting to higher elevations. It was known even then that the configuration of the country and the elevations of the Victoria and Tanganyika, which had already been taken, made it impossible for the Lualaba, which has since turned out to be twenty-four hundred feet below the level of the Victoria Nyanza, and eleven hundred feet below the Albert Nyanza, to flow into either of these lakes. Moreover, Cameron now finds the volume of the Lualaba at Nyangwé to be five times greater by cubic feet measurement than that of the Nile at Gondokoro. From the notices which have appeared up to a late period of Mr. Stanley's anticipations, it would seem that until he heard of Lake Akenyara, he still cherished the hope that the Lualaba might prove to be the Nile. Since the discovery of the Welle by Dr. Schweinfurth, it is now evident that the Lualaba, besides having to ascend two thousand feet and diminish in size, would have to cross that river at right angles in order to become the Nile. The Welle, which apparently rises in the Niam Niam country, flows due west, and Cameron thinks that

it may be the Lowa, of which he heard at Nyangwé, and which is an important affluent of the Congo ; but we believe that it will far more probably turn out to be the Ogowé.

“The large affluents of the Congo,” says Cameron, “would explain the comparatively small rise of the Congo at the coast, for since its enormous basin extends to both sides of the equator, some portion of it is always under the zone of rains, and therefore the supply to the main stream is nearly the same at all times, instead of varying, as is the case with tropical rivers whose basins lie completely on one side of the equator.” It would still seem open to doubt to what extent the Upper Congo (Webb’s Lualaba) receives any of the waters of Lake Tanganyka by the Lukuga Creek discovered by Cameron. Mr. Stanley deserves the highest credit for the very careful and conscientious manner in which he has investigated this interesting and curious point. The map which he has sent home of the Lukuga Creek, as the result of his personal examination, is as valuable as the imaginary one of Akenyara is worthless, and although we may not altogether accept his conclusions, and may question his theories in regard to the nature and origin of Lake Tanganyka, they are ingenious, and open a wide field of conjecture. Mr. Stanley is of opinion that Lake Tanganyka is gradually but steadily rising, and that, although it has never yet found an outlet by the Lukuga, as reported by Cameron, it will inevitably do so before long. It should be remembered that Cameron did not commit himself to the belief that this was a permanent outlet. In a very able and exhaustive paper read by Mr. Clement Markham before the Royal Geographical Society two years ago, that gentleman discusses the question whether the outflow by the Lukuga is permanent or temporary, and he thinks it highly possible that the outflow only takes place during a portion of the year. From the observation of former explorers we learn that “the lake varies from eight to ten feet between the end of the rainy and the end of the dry season, and the rivers become much diminished in size. The current flows from south to north during two thirds of the year, from February to November, and to the south from November to February, when evaporation is at its strongest at the southern end. Thus the flow of the current is due to causes connected with the course of the seasons and winds, and is not influenced by the position of the outlet.” Captain Burton,

who, with Speke, was its first discoverer, in the best description which has ever been given us of this lake, devotes a long chapter to its phenomena. He says: "Wind currents are common. Within a few hours a stream will be traversed setting strongly to the east, and crossed by a southerly or southwesterly current. High gales in certain localities where the waves set upon a flush shore, drive the water fifteen to twenty feet beyond the usual mark. This circumstance may partly explain the Arabs' belief in the regular ebb and flow, which Eastern travellers declare they have observed upon Tanganyka." * Stanley bases his belief that the Lukuga has never yet been an outlet on the fact that he found four or five feet of water on the beach where Cameron drew up his canoe, and that the current of the Lukuga was running towards and not away from the lake, as described by Cameron. The one-and-a-half knot current, which convinced the latter that the Lukuga was an effluent and not an affluent of Tanganyka, Stanley ascribes to the effect of an easterly wind on the occasion of his visit. If, when Stanley saw the Lukuga, it was not running out of the Tanganyka, *a fortiori*, he supposes it could not have been doing so when Cameron saw it two years previously, and when the lake was apparently five feet lower. In reply to this we would observe, that the account of the increase of depth of water on the beach was derived from native sources, which might have been erroneous, but even if they were not, the displacement of the shores might have been due to the influences described by Captain Burton and other travellers. Cameron says the wind was "in his teeth" when ascending the creek, so that the current must have been against the wind, and he gives more than a fathom of water on the shallowest part of the bar, whereas Stanley gives a depth only of from two to five feet. This would show the lake to have been higher when Cameron was there than on the occasion of Stanley's visit. Indeed, if the calculations of the latter are correct, that it rises about two and a half feet a year, he must have seen the lake forty-five feet higher than it was when it was discovered by Burton and Speke, which is extremely improbable. The real explanation of the condition of this outlet, when observed by Stanley, is evidently to be found in the fact that the lake was lower than it had been, instead of higher, that it occasionally over-

* Lake Regions of Central Africa, by Captain Richard Burton.

flows, and that this overflow has cut the gorge in the Kivanja Ridge, through which the Luindi flows; in other words, that the Congo is fed from time to time from Tanganyika will, we think, turn out to be the case. This cutting of twelve hundred feet in the Kivanji Range is difficult to account for on any other hypothesis. "The mud and ooze, with the papyrus of the Mitwansi," says Mr. Stanley, "is too feeble an obstacle to resist the rising floods received each year by the Tanganyika, while there is a steep slope at the western end ready to receive the surplus water. The consequence will be that five years hence, perhaps a little later, an effluent will be formed of magnitude and force, for the fiat of nature has gone forth to the Tanganyika, 'Thus high shalt thou rise and no higher.'" This fiat we believe to have been issued and obeyed by Lake Tanganyika many thousands of years ago. Lieutenant Cameron proved this lake to be about one hundred miles longer than had heretofore been supposed. Livingstone's Lake Liemba turns out to be its lower section, while its direction, instead of being from north to south, is from northwest to southeast. Of all the lakes yet discovered, there is no more remarkable or interesting object than this gigantic rift in the country extending for three hundred and twenty-nine miles in length with a breadth of from ten to fifteen miles and of unknown depth. Cameron counted ninety-six rivers and streams flowing into it upon the shores he surveyed, and this does not include those of the upper half of the lake, while it is now proved that there is only one temporary and uncertain outlet.

With Livingstone's last journals fresh in the memory of our readers, we need not recapitulate his discoveries, more especially as no enterprising traveller has yet invaded his territory for the purpose of appropriating them. To him belongs the honor of having first crossed Africa between the tropics, when all we knew of the region were the vague accounts of one or two Portuguese traders. He first revealed to us the majestic falls of the Zambesi, showed our missionaries the way to the unknown lakes of Shire and Nyassa, and is still the sole explorer of that singular lacustrine region through which the Congo flows, rising in Lake Bangweolo, and so through Lake Moero, till it joins the other branch which flows through the Lake Kassali of Cameron. It may be said of Livingstone, that no man ever contributed so large an unknown portion of the earth's surface to the cause of geography, while his

unvarying benevolence and gentleness have left him a reputation among the savage tribes of Africa as remarkable as that which he has achieved among his own countrymen for undaunted courage and indomitable perseverance. For information regarding that still more lately explored region which Lieutenant Cameron's journey has opened up to us, we commend our readers to the admirably executed edition of that officer's work, which Messrs. Harper have just brought out in this country, in which they will find his unparalleled achievement narrated with a simplicity and modesty that carries its own best evidence with it. There can be no doubt that Lieutenant Cameron's success was largely due to the singular forbearance he manifested in his treatment of the natives under circumstances often of the greatest provocation. We are unable to do more than glance at the work of other explorers. If we have said nothing of that illustrious band of German *savans* who have followed in the footsteps of Denham, Clapperton, and Mungo Park, in the region about Lake Tchad, it is not because they have not placed themselves in the front rank of African explorers, Barth, Overweg, Vogel, Nachtigall, Rohlf's, are all honored names among geographers, while on the west coast Du Chaillu, De Compiègne, Gandy, Gûsfeldt, Winwood Reade, and others, have endeavored, but with comparatively little success, to make an impression. It is a singular fact that no one has succeeded in ascending the Congo from the mouth to the point reached by Captain Tuckey in 1816. Monsieur Marche and Dr. Lenz, a German explorer, are now on the Ogowé, and report, that they find that river, at a distance of four hundred and fifty miles from its mouth, to be six hundred yards across. Dr. Pogge, another German explorer, who has returned home after having made a journey from Loando to Mossambu, starts the new theory that the Lualaba of Cameron and Livingstone is the Ogowé, and that the Kassabi is the Congo. In spite of this idea being confirmed by a Portuguese traveller, whose name is not given, we feel no doubt that the Kassabi is only one of the feeders of the Congo, of which the Lualaba is the parent stream, and that the Ogowé, which is clearly a river of the first magnitude, will be found to have its origin in Schweinfurth's Welle.

On the east coast Hildebrand is pushing through by way of Mount Kenia for the Victoria Nyanza, while the Italian expedition under the Marquis Antinori is making for the same point

through the Galla country. On Lake Nyassa some fifteen or twenty white persons are established with a steamer, by means of which it has been surveyed by Mr. Young, and found to extend far to the north of what was supposed. Mr. Price has found it practicable to take bullocks to the Tanganyika, and the day may not be remote when a line of telegraph may extend from Cairo to the Cape of Good Hope, by way of these lakes, to be followed by a system of internal water communication which may unite the Nile with the Zambesi. An international commission, under the Presidency of His Majesty, the King of the Belgians, has been organized for the establishment of posts, from which exploratory expeditions may be made, and by means of which that curse of Africa, the interior slave-trade, may be suppressed.

If we have dwelt especially upon the achievements of Speke, Livingstone, and Cameron, it is because they have unquestionably eclipsed those of all other discoverers, nor is it possible for any subsequent traveller to wrest from the first-named explorer the imperishable honor of having solved the mystery of the Nile, and discovered not merely the lake from which it first issues as a mighty stream, but the water-system which supplies this great reservoir. Those who apply themselves to the ungrateful task of appropriating the laurels which have been won by others will find that there is too powerful a sense of justice in the world, and too keen an appreciation of heroic effort, to permit any such unworthy attempt to succeed. It is of the utmost importance that those who are engaged in these arduous undertakings should be sustained by the consciousness that the public, especially interested in them, and competent accurately to value their work, will jealously protect their reputation, even though the exploits which they achieve are modestly recorded, and they are denied the privilege, if privilege it can be called, of exaggerated journalistic glorification. Meantime it would be as well for the African explorer to remember that the problems which he may be called upon to solve are as much humanitarian as geographical. His should be the task to introduce an influence which may rescue the country from the scourge of slavery under which it is suffering, and to develop its moral and material resources without substituting for the vices and cruelties which afflict it those which are incidental to the civilization to which he himself belongs.

LAURENCE OLIPHANT.